

WHAT IS CLAIMED IS:

1 1. For use in a network interface controller, a
2 power and power management signaling control system
3 comprising:

4 a voltage regulator;

5 a first connection coupled to the voltage
6 regulator for connection to a network-initiated power
7 management recovery signal and a power management
8 recovery bus signal; and

9 a second connection coupled to the voltage
10 regulator for selective connection to a motherboard
11 header,

12 wherein the control system is operable to
13 provide power to a network interface card and power
14 management signals, if necessary, within each of systems
15 not supporting network-initiated power management
16 recovery, systems supporting network-initiated power
17 management recovery through the header, and systems
18 supporting network-initiated power management recovery
19 through the power management recovery bus signal.

1 2. The control system according to claim 1,
2 further comprising:

3 a third connection coupled to the voltage
4 regulator for connection to an auxiliary power bus
5 signal,

6 wherein the control system is operable to
7 provide auxiliary power to the network interface card
8 within systems not providing auxiliary power, within
9 systems providing auxiliary power from the header, and
10 within systems providing auxiliary power from the
11 auxiliary power bus signal.

1 3. The control system according to claim 2,
2 wherein grounding of the auxiliary power bus signal does
3 not affect provision of auxiliary power to the network
4 interface card by the control system.

1 4. The control system according to claim 1,
2 further comprising:

3 an inverter inverting the network-initiated
4 power management recovery signal to the header.

1 5. The control system according to claim 1,
2 further comprising:

3 an inverter gating auxiliary power for the
4 network interface card to main power for the network
5 interface card when a bus power signal is asserted and
6 disconnecting the auxiliary power from the main power
7 when the bus power signal is not asserted.

1 6. The control system according to claim 1,
2 further comprising:

3 diodes preventing back powering of a bus to
4 which the control system is coupled during hibernate
5 states, system power short circuiting of and leakage
6 malfunctions in the control system when the header is
7 incorrectly connected or unconnected to the motherboard,
8 and auxiliary power shorts to ground when an auxiliary
9 power bus signal coupled to the control system is
10 grounded.

1 7. The control system according to claim 1,
2 wherein the control system is operable within systems
3 that do not provide 3.3V power to provide 3.3V power from
4 the voltage regulator.

1 8. A network interface controller comprising:
2 connections for selectively coupling the
3 controller to a network interface card adapted for
4 installation within a Peripheral Component Interconnect
5 (PCI) bus slot; and
6 a power control circuit coupled to the
7 connections, the control circuit comprising:
8 a first connection coupling a voltage
9 regulator to a network-initiated power management
10 recovery signal and a power management recovery bus
11 signal; and
12 a second connection selectively coupling
13 the voltage regulator to a motherboard header,
14 wherein the controller is operable to
15 provide power to the network interface card within
16 any of systems not supporting network-initiated
17 power management recovery, systems supporting
18 network-initiated power management recovery through
19 the header, and systems supporting network-initiated
20 power management recovery through the power
21 management recovery bus signal.

1 9. The controller according to claim 8, further
2 comprising:

3 a third connection coupling the voltage
4 regulator to an auxiliary power bus signal,

5 wherein the control circuit is operable to
6 provide auxiliary power to the network interface card
7 within systems not providing auxiliary power, within
8 systems providing auxiliary power from the header, and
9 within systems providing auxiliary power from the
10 auxiliary power bus signal.

1 10. The controller according to claim 9, wherein
2 grounding of the auxiliary power bus signal does not
3 affect provision of auxiliary power to the network
4 interface card by the control circuit.

1 11. The controller according to claim 8, further
2 comprising:

3 an inverter inverting the network-initiated
4 power management recovery signal to the header.

1 12. The controller according to claim 8, further
2 comprising:

3 an inverter gating auxiliary power for the
4 network interface card to main power for the network
5 interface card when a bus power signal is asserted and
6 disconnecting the auxiliary power from the main power
7 when the bus power signal is not asserted.

1 13. The controller according to claim 8, further
2 comprising:

3 diodes preventing back powering of a bus to
4 which the control circuit is coupled during hibernate
5 states, system power short circuiting of and leakage
6 malfunctions in the control circuit when the header is
7 incorrectly connected or unconnected to the motherboard,
8 and auxiliary power shorts to ground when an auxiliary
9 power bus signal coupled to the control circuit is
10 grounded.

1 14. The controller according to claim 8, wherein
2 the control circuit is operable within systems that do
3 not provide 3.3V power to provide 3.3V power from the
4 voltage regulator.

1 15. For use in a network interface controller, a
2 method of power and power management signaling control
3 comprising:

4 providing a single voltage regulator coupled to
5 a network-initiated power management recovery signal and
6 a power management recovery bus signal and selectively
7 coupled to a motherboard header; and

8 operating a control system for the voltage
9 regulator to provide power to a network interface card
10 and power management signals, if necessary, independent
11 of whether the controller is installed within a system
12 not supporting network-initiated power management
13 recovery, a system supporting network-initiated power
14 management recovery through the header, or a system
15 supporting network-initiated power management recovery
16 through the power management recovery bus signal.

1 16. The method according to claim 15, further
2 comprising:

3 coupling the voltage regulator to an auxiliary
4 power bus signal; and

5 operating the control system to provide
6 auxiliary power to the network interface card independent
7 of whether the controller is installed within a system
8 not providing auxiliary power, a system providing
9 auxiliary power from the header, or a system providing
10 auxiliary power from the auxiliary power bus signal.

1 17. The method according to claim 16, further
2 comprising:

3 providing auxiliary power to the network
4 interface card independent of whether the auxiliary power
5 bus signal is grounded.

1 18. The method according to claim 15, further
2 comprising:

3 inverting the network-initiated power
4 management recovery signal to the header.

1 19. The method according to claim 15, further
2 comprising:

3 gating auxiliary power for the network
4 interface card to main power for the network interface
5 card when a bus power signal is asserted; and

6 disconnecting the auxiliary power from the main
7 power when the bus power signal is not asserted.

1 20. The method according to claim 15, further
2 comprising:

3 preventing back powering of a bus to which the
4 control system is coupled during hibernate states;

5 preventing system power short circuiting of and
6 leakage malfunctions in the control system when the
7 header is incorrectly connected or unconnected to the
8 motherboard; and

9 preventing auxiliary power shorts to ground
10 when an auxiliary power bus signal coupled to the control
11 system is grounded.